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IN THE CLAIMS

Please amend the claims as follows:

1. (Currently amended) A system for enabling layer-3 communication within a sub-network for those members of the sub-network- without layer-2 communication, the system comprising: a sending device, a receiving device, a forwarding agent, a first network device comprising a media access control address of the forwarding agent, the first network device interprets an address resolution protocol request from the sending device, and sends an address resolution protocol reply comprising the media access control address of the forwarding agent to the sending device;

wherein the forwarding agent comprises network devices able to forward data-packets and communicate through a plurality of network communication layers including layer-3; and

wherein the first network device comprises a processor for processing the data-packets, a memory for storing program data-structures associated with the processor, a plurality of storage structures interactive with the processor, and a proxy- proxy address resolution protocol function within the memory and interactive with the processor.

2. (Original) The system of Claim 1 wherein the first network device comprises a proxy-proxy address resolution protocol function adapted to interpret the address resolution protocol request.

3. (Original) The system of Claim 1 wherein the first network device comprises a proxy-proxy address resolution protocol function adapted to send a reply to the sending device comprising the media access control address of the forwarding agent.

4. (Original) The system of Claim 1 wherein the receiving device comprises a network device comprising an internet protocol address and a media access control address.

5. (Original) The system of Claim 4 wherein the receiving device comprises a computer.

6. (Original) The system of Claim 1 wherein the first network device comprises a network device adapted to communicate through a plurality of network communication layers including layer-3.

7. (Original) The system of Claim 6 wherein the first network device comprises a switch.

8. (Canceled)

9. (Currently amended) The system of Claim 8 wherein the forwarding agent comprises a router.

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10. (Currently amended) The system of Claim & 1 wherein the forwarding agent comprises a firewall.

11. (Canceled)

12. (Currently amended) A method to enable layer-3 communication within a sub-network for members of the sub-network without layer-2 communication, the method comprising the steps of:

intercepting within a first function an address resolution protocol request from a sending device, the address resolution request intended for a receiving device, the sending and receiving devices being coupled to the sub-network; and

determining whether the sending and receiving devices are permitted to communicate with one another via layer-2 communication based on the layer-3 IP address of the receiving device;

replying from the first function to the sending device an address resolution protocol reply comprising a forwarding agent's media access control address if the sending and receiving devices are not permitted to communicate with one another via layer-2 communication;

sending data packets from the sending device to the forwarding agent based on the forwarding agent's layer-2 MAC address; and

forwarding the data packets from the forwarding agent to the receiving device based on the layer-3 IP address of the receiving device.

13. (Canceled).

14. (Original) The method of Claim 12 wherein the first function is included in a first network device adapted to communicate at layer-3.

15. (Original) The method of Claim 14 wherein the first network device comprises a computer.

16. (Original) The method of Claim 14 wherein the first network device comprises a proxy-proxy address resolution device.

17. (Original) The method of Claim 14 wherein the first network device comprises a switch.

18. (Original) The method of Claim 12 wherein the forwarding agent comprises a network device adapted to communicate through a plurality of communication layers including layer-3.

19. (Original) The method of Claim 18 wherein the forwarding agent comprises a router.

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20. (Original) The method of Claim 18 wherein the forwarding agent comprises a firewall.

21. (Currently amended) A signal-bearing media containing a program to enable layer-3 communication within a sub-network for members of the sub-network without layer-2 communication, the program comprising the steps of:

intercepting within a first function an address resolution protocol request from a sending device, the address resolution request intended for a receiving device, the sending and receiving devices being coupled to the sub-network,

determining whether the sending and receiving devices are permitted to communicate with one another via layer-2 communication based on the layer-3 IP address of the receiving device; and

replying from the first function to the sending device an address resolution protocol reply comprising a forwarding agent's media access control address if the sending and receiving devices are not permitted to communicate with one another via layer-2 communication;

sending data packets from the sending device to the forwarding agent based on the forwarding agent's layer-2 MAC address; and

forwarding the data packets from the forwarding agent to the receiving device based on the layer-3 IP address of the receiving device.

22. (Canceled)

23. (Original) The program of Claim 21 wherein the first function is included in a first network device adapted to communicate through a plurality of communication layers including layer-3.

24. (Original) The program of Claim 23 wherein the first network device comprises a computer.

25. (Original) The program of Claim 23 wherein the first network device comprises a proxy-proxy address resolution device.

26. (Original) The program of Claim 23 wherein the first network device comprises a switch.

27. (Original) The program of Claim 21 wherein the forwarding agent comprises a network device adapted to communicate through a plurality of communication layers including layer-3.

28. (Original) The program of Claim 27 wherein the forwarding agent comprises a router.

29. (Original) The program of Claim 27 wherein the forwarding agent comprises a firewall.